

REMARKS

Claims 157-162, 185-189, 191-195 and 216-220 are rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement. This rejection is respectfully traversed.

The Examiner asserts that the limitation “only in a range of 390 to 420 nm” does not have exact antecedent basis in the specification as “only” is not disclosed anywhere in the specification. The Examiner also questions whether such a device is even enabled by the specification. The Examiner notes that the emission spectrum of a diode is generally spread over a range of wavelengths even though in a direct bandgap material as GaN the majority of emission is centered around the bandgap energy.

Applicant submits that the word “only” need not specifically appear in the specification to provide antecedent basis for the claim limitation of “only in a range of 390 to 420 nm” if the disclosed device would naturally only emit light in the claimed wavelength range. Claim 157 recites a semiconductor light emitting element which emits light having an emission wavelength only in a range of 390 to 420 nm. As well known in the art, a semiconductor light-emitting element includes not only a light emitting diode (LED) but also a laser diode. As seen in the attached Exhibit A, it is known that a laser diode can emit having an emission wavelength in a range as small as 5 nm. Thus, it is possible for a laser diode to emit light having an emission wavelength only in a range of 390 to 420 nm, as claimed.

Further, the specification, at paragraph [0013], states that “[T]he semiconductor light-emitting elements 7a, 7b, 7c emit light in a wavelength range of 390 nm to 420 nm.” There are other descriptions in the specification which limit the disclosed device to one which emits light “only” in the claimed wavelength range. For example, the disclosure at paragraph [0013], the specification states “[W]hen the wavelength of light from the semiconductor light-emitting element is longer than 420 nm, the light is easily recognized by human eyes as visible light” (see specifically, pg. 54 lines 12-15). Paragraph [0013] goes on to state that “[F]urthermore, when the wavelength of light from the semiconductor light-emitting element is shorter than 390 nm, this light

becomes ultraviolet rays harmful to human bodies and has adverse effects on a resin portion used in the semiconductor light-emitting device.” Applicant submits that at least these portions of the specification are clear indications that applicant intended to limit the device to a semiconductor light-emitting element which emits light having an emission wavelength only in a range of 390 to 420 nm. Thus, adequate support in the specification has been provided for the foregoing claim recitation and applicant requests that this rejection be withdrawn.

Claims 157-162, 185-189, 191-195 and 216-220 stand rejected under 35 USC 103(a) as being unpatentable over Vriens in view of Phosphor Handbook, Vecht and Komoto, all of record. This rejection is respectfully traversed.

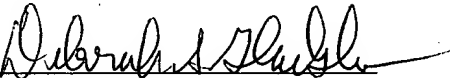
The Examiner asserts that Vriens teaches that wavelengths below 390 nm are to be avoided because of the detrimental effect on the resins and to humans. However, Vriens discloses only light emitting diodes, but not lasers. Light emitting diodes have wavelength-spectrum widths greater than 30 nm i.e. the difference between 390 and 420 nm set forth in the claims, as shown in the base portions of the wavelength spectrums of the attached Exhibit B, for example. Since light emitting diodes have much wider base portions in the wave-length spectrums than those of laser diodes or equivalent, and Vriens is related to light emitting diodes, Vriens could not possibly teach the claimed range which is limited to a range covering 30 nm, i.e., 390 nm to 420 nm. Thus, Vriens fails to teach that which the Examiner asserts. Accordingly, the features of claim 157 are not taught or suggested by the cited art, either alone or in combination.

Claims 158-161 and 216 recite the above-discussed feature from claim 157, and are therefore allowable for the same reasons. The remaining claims are allowable at least due to their respective dependencies. Applicant requests that this rejection be withdrawn.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 204552021500.

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Respectfully submitted,

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Attachments: Exhibits A and B